

New York City Test Bed for Search & Characterization Equipment

Project Goals

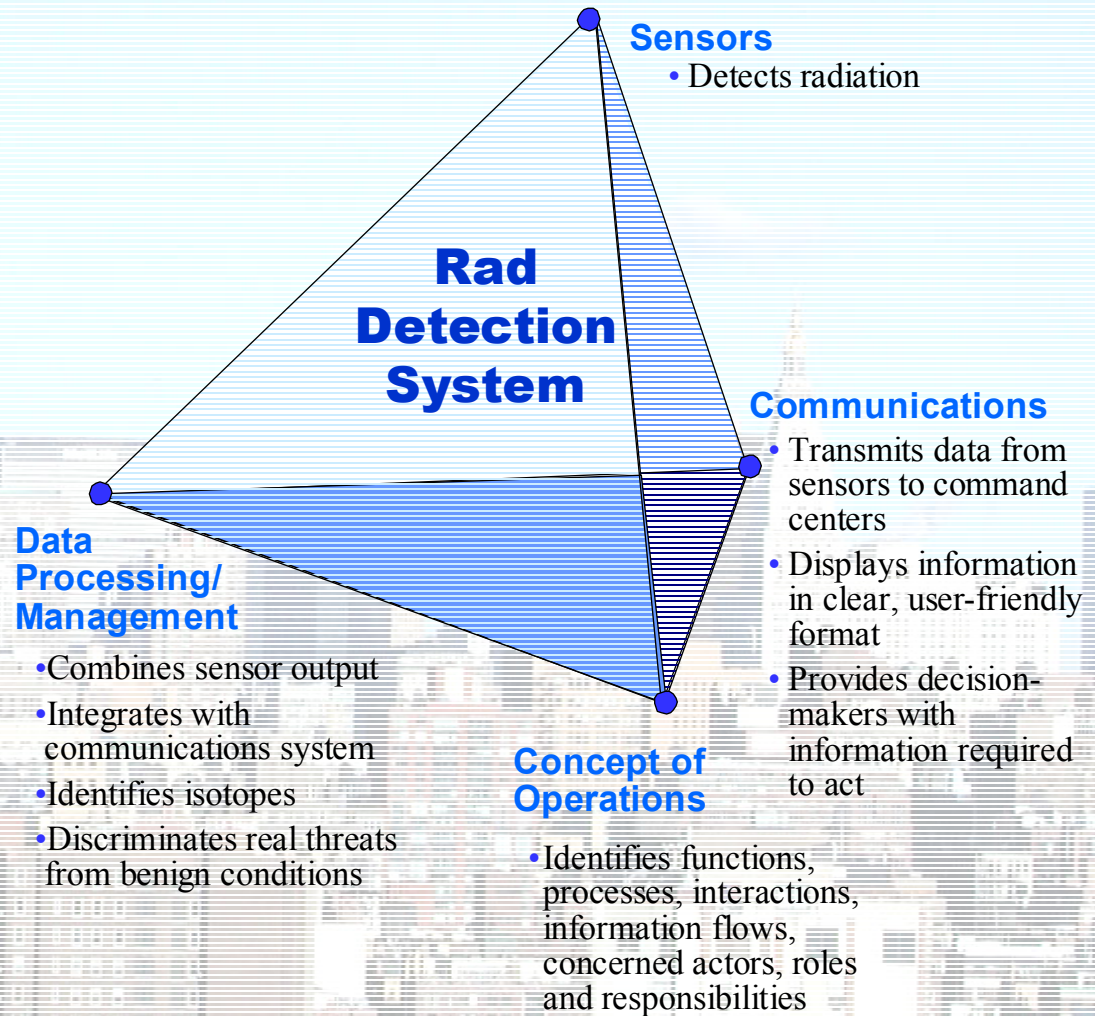
The goals of this project are to establish an operational test bed for radiation detector systems and to transfer, as rapidly as feasible, state-of-the-art radiation detection technology to New York City emergency responders.

- ◆ Provides timely, reliable information to government officials and to the public about the nature and extent of the rad/nuc event
- ◆ Provides information required to determine precise evacuation areas and routes and to minimize radiation exposure to emergency personnel and the public
- ◆ Generates a database of “normal” background levels that will help to distinguish benign elevations in radiation levels from real threats
- ◆ Establishes a template for similar efforts in other major metropolitan areas

Applications of Radiation Detection Systems

- ◆ Detect and characterize threatening rad/nuc materials and objects in transit
- ◆ Provide real-time, post-event information needed to manage emergency response

Components of a Radiation Detection System



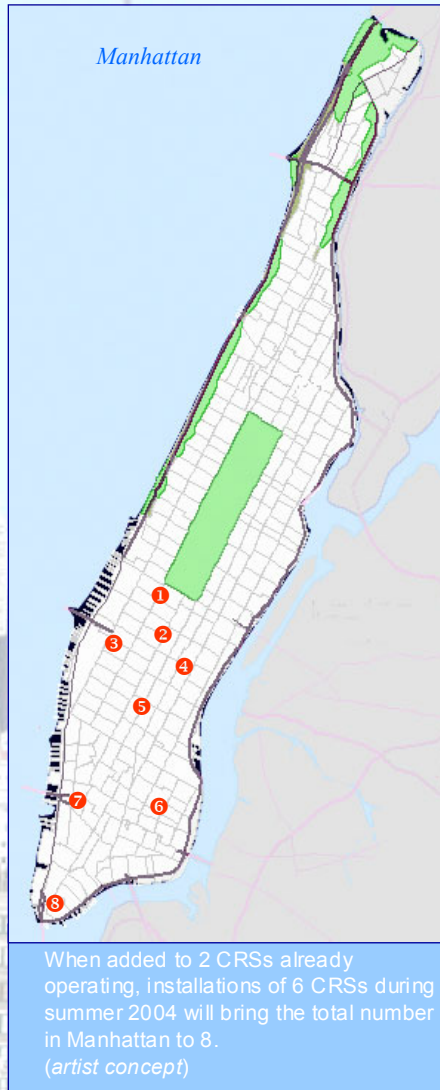
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Sites for Radiation Detectors in New York City

EML and the New York City Office of Emergency Management are collaborating to select sites (nodes) for locating radiation detectors.

Comprehensive Radiation Sensors will be installed at six sites located in the area of Manhattan south of 59th street during the summer of 2004. By mid-2005, up to 30 sensors will be operating in Manhattan, other New York City boroughs, and at other locations.

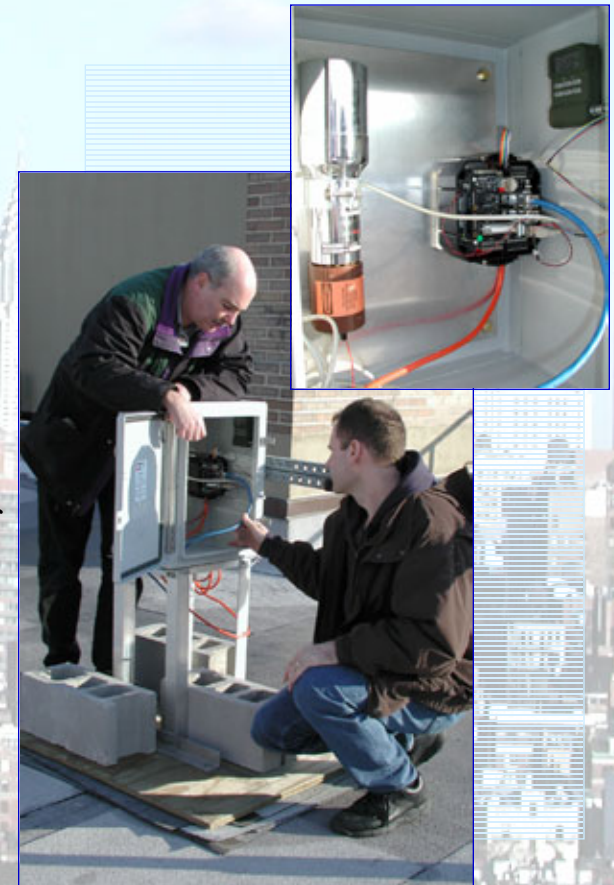
Mobile nodes are also to be included in the radiation detection system.



Comprehensive Radiation Sensor II (CRS II)

The CRS is a real-time gamma radiation detector and spectroscopic analyzer developed by EML. It will be the first radiation detector to be deployed in the test bed.

- ◆ Provides spectral data in addition to total gamma radiation, allowing identification of specific radionuclides and discrimination between natural and man-made radioactivity
- ◆ High sensitivity and rapid sampling cycle responds quickly (in seconds) to changes in atmospheric radioactivity, a feature particularly valuable to detect radioactivity from moving vehicles
- ◆ A prototype CRS has been in continuous operation on the roof of EML's building in lower Manhattan since November 2001 and a second unit located in the Times Square area has been operating since November 2003.



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Data Transmission

A reliable data transmission system is a critical part of the radiation detection system. The data transmission system sends data from detectors located in the field (Manhattan) to one or more data centers. Although radiation sensors will be connected via the Internet, a complementary wireless communications system will also be deployed. The wireless system must operate during emergency conditions when phone and cellular communications may be overloaded or non-functioning.

